



FSM4 SPEAKER BIOS

DAY 1: MONDAY, 20 FEBRUARY 2017

DAY 1, TRACK 1: RESEARCH

RESEARCH 1.1: INTEGRATED PROCESSES – I

1. HOFFMANN, M. et al., "Development of Integrated Reactor Systems for the Combined Biological and Electrochemical Treatment of Faecal-Sludge and Wastewater Without Discharge to the Environment", USA



Prof. Michael R. Hoffmann, NAE

California Institute of Technology, Pasadena, California 91125

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WEBSITE: <https://scholar.google.com/citations?user=KPeon7UAAAAJ&hl=en>

Prof. Hoffmann has been a faculty member at Caltech since 1980. He was previously a member of the engineering faculty at the University of Minnesota. His research group has been part of the BMGF's RTTC initiative since 2011. The Yixing Eco-manufacturing Company is producing combined toilet and wastewater treatment systems commercially in China.

2. JIMENEZ, I. et al., "Urine-tricity Project", UK



Dr. Irene Merino-Jimenez, Research Fellow

University of the West of England (U.W.E.), Bristol BioEnergy Centre, Bristol, U.K.

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Dr Irene Merino-Jimenez is a Research Fellow in the Bristol BioEnergy Centre at the University of the West of England. She works within the Urine-Tricity project developing Microbial Fuel Cell Stacks for urine treatment, electricity production and nutrient recovery from urine.

3. SALMON, B. et al., "Market Insights for The Reinvented Toilet", India



Brandy Salmon, Program Director, Sanitation Technology Platform

Director and Senior Innovation Advisor, RTI International, Durham, North Carolina, USA

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Dr. Salmon serves as Program Lead of the Sanitation Technology Platform, STeP, for the Bill & Melinda Gates Foundation, providing program leadership and oversight to integrate and accelerate innovations in sanitation through in-field testing, market intelligence and business planning, and commercialization in strategic locations globally. In addition to STeP, Dr. Salmon helps clients explore best practices in innovation, commercialize assets, and through a disciplined approach, identify and evaluate new sources of innovation spanning a range of sectors including devices/appliances, consumer products, food and agriculture, and water and sanitation, and waste to energy technologies.

4. BAIR, R. et al., “India Field Testing of an Integrated Sanitation Platform with Electronic Public Toilet (eToilet) and Off-grid Anaerobic Membrane Bioreactor (NEWgenerator™)”, USA



Dr. Robert Bair, Environmental Engineering Research Associate

University of South Florida, Tampa, Fl. USA.

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Robert Bair serves as the technical lead for the NEWgenerator pilot system in Kerala, India. He specializes in anaerobic membrane bioreactors for wastewater treatment and is keenly interested in the use and development of cutting-edge sanitation technologies relevant to urban poor.

RESEARCH 1.2: ECONOMICS & BUSINESS I

1. MEHTA, M. et al., “Financing Citywide FSM Services”, India



Prof. Meera Mehta

Professor Emeritus and Joint Director Centre for Water and Sanitation, CEPT University, Ahmedabad, India

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Prof Meera Mehta leads the work on water and sanitation at CEPT University. She is also the Joint Director of the Centre for Water and Sanitation. She will present the CEPT work on financing of sanitation services and moderate a session on FSM Business Models.

2. MILLS, F. et al., “Increasing Institutional and Regulatory Support for Private Sector”, Australia



Freya Mills, Senior Research Consultant

Institute for Sustainable Future – University of Technology Sydney, Australia

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Freya is an urban sanitation specialist, with a career that spans multilateral development banks, non-government organisations (NGOs), research institutes and private consulting firms. Freya has a Masters in Water Resource Engineering and has worked for extended periods in Indonesia, Nepal, Samoa, Vietnam and Australia

3. BERENDES, D. et al., “Sanitation Credits: A New Financing Model to Scale Investment in Fecal Sludge Management”, USA



Dr. David Berendes, Postdoctoral fellow

Brown Water Group, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia, USA

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David is presenting a study of enteric infection and sanitation—including FSM—in low-income, dense urban environments. He is also presenting a poster describing the burden of FSM services on the poorest of the poor. His is an interdisciplinary epidemiologist concerned with environmental solutions to antimicrobial resistance in WASH-related diseases.

4. KOOTTATEP, T. et al., “Financial Feasibility Analysis for FSM business in Thailand”, Thailand

Presented by Dr. Atitaya Panuvatvanich



Dr. Atitaya Panuvatvanich, Senior Researcher

NATS Asian Institute of Technology, Thailand

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Dr. Atitaya Panuvatvanich with over 17 years of experience in water and wastewater sector is a project manager for NATS developing in innovative sanitation technologies and FSM Toolbox.

RESEARCH 1.3: DESIGN & EVALUTATION

1. PHILIP, L. et al., “Performance Evaluation of DRDO Based Anaerobic Biodigesters for Blackwater Treatment”, India

NO BIO AVAILABLE

2. MCWHIRTER, M. et al., “Design of Sludge Treatment Facilities in Indonesia: Learning from the Past to Design a Better Future”, India

NO BIO AVAILABLE

3. NARTYE, E. et al., “Technological Options For Fecal Sludge Pelletization In Ghana”, Ghana



Eric Gbenatey Nartey, Research Officer

International Water Management Institute (IWMI), Accra, Ghana.

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Eric Gbenatey Nartey has a master’s degree in Environmental Science from the University of Ghana. He has interests in fecal sludge co-composting and microbiology. In IWMI, he supervises the production of compost and organising crop response trials with farmers on the use of compost and compost pellets.

4. WOOLLEY, S. et al., “SASTEP: Lessons Learnt from Phase I of the SASTEP EarthAuger Demonstration in South Africa”, South Africa

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RESEARCH 1.4: THERMAL PROCESSING & BIOCHAR

1. HALLOWELL, B. et al., “Carbon Neutral Electrical Generation from Human Solid Waste: Developing the Energy Balance and Identifying Suitable Electrical Generation Solutions Capable of Harnessing Thermal Energy”, USA



Benjamin Hallowell, MPH, Research Analyst

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Since 2011 Ben has worked as a Research Analyst and Technical Writer in the biomass combustion industry focusing on reducing emissions and improving combustion and thermal efficiency. For the last three years, however, Ben has focused on Biomass Controls' human solid waste pyrolyzer conducting data analyses to improve algorithm performance, and writing numerous white papers and literature reviews on relevant issues encountered during the project development.

2. FOUTCH, G. et al., "Temperature and Shear Rate Dependent Viscosity Model for Faeces Simulant and Computational Fluid Dynamics Analysis of a High-Throughput Viscous Heater to Process Faeces", USA



Gary L. Foutch, PhD, PE, Fellow AIChE

Adjunct Professor, Civil and Mechanical Engineering, University of Missouri Kansas City, MO
Anadarko Petroleum Chair Emeritus, Chemical Engineering, Oklahoma State University, Stillwater, OK
Honorary Professor, Chemical Engineering, University of KwaZulu-Natal, Durban, South Africa

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Dr. Foutch has worked in several chemical engineering areas; including, ultrapure water processing, biotechnology, fermentation, rate-limited separations, among others. He became involved with FSM through a Bill & Melinda Gates Foundation Grand Challenges Exploration grant – developing technology from bench to full-scale equipment design.

3. CHENG, Y. et al., "Smouldering and Catalytic Conversion for Fecal Treatment", Canada

Presented by Samoil Vohra



Samoil Vohra, Protocol Engineer

Reinvent the Toilet Challenge, University of Toronto, Toronto, Canada

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Samoil Vohra received his degree in chemical engineering at the University of Toronto in 2013 and promptly joined the Reinvent the Toilet team there under Professor Yu-Ling Cheng. In that capacity he has supported process development but focuses on functionality testing of process equipment and rapid troubleshooting and prototyping.

4. BOHNERT, K. et al., "Continual Flow Heat Treatment System for Container-based Toilets", Kenya



Kate Bohnert, MPH

Research Lead at Sanivation, Naivasha, Kenya

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Kate Bohnert obtained an MPH from Emory University, where she focused on evaluating the intersection between water, sanitation, and hygiene infrastructures and public health. Since 2015, Kate has worked with sanitation social enterprises in Kenya, where she is testing the effectiveness of solar treatment systems and characterizing faecal sludge.

RESEARCH 1.5: ECONOMICS & BUSINESS II

1. TSEPHHEL, S., Isha, D., "Scalability of underground drainage and faecal sludge management :- a financial perspective from India", India

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2. WATSON, P. et al., "Determining the Economically Optimal Capacity of a Decentralized Faecal Sludge Treatment Plant", USA

NO BIO AVAILABLE

3. KITA, A. et al., "Sub Saharan Africa Stakeholder Perspectives and Early Thoughts on Macro Business Model Implications", USA

NO BIO AVAILABLE

4. SUGDEN, S., "Strategies and lessons for achieving scale in Sanitation", USA



Steven Sugden, Programme Manager

Global sanitation program manager, Water for People

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Steven Sugden has over 25 years of practical experience in water supply and sanitation in developing countries. During this time he has developed an in-depth theoretical and practical understanding of the many diverse challenges facing the sector, ranging from the decomposition of sludge in pit latrines to the targeting the poorest segments of the community. He has been involved in designing and implementing sanitation programs aimed at the sustainable delivery, scale and maintenance systems, using sanitation marketing techniques and private sector organizations as implementers. All of which throws up new challenges regarding measuring impact.

RESEARCH 1.6: CHARACTERISATION & QUANTIFICATION OF FS

1. MEHTA, M. et al., "San Benchmarks: Citywide Assessment of Sanitation Service Delivery – Including On-Site Sanitation", India

See RESEARCH 1.2.1

2. VELKUSHANOVA, K. et al., "Development and Testing of Faecal Sludge Simulants", South Africa

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3. STRANDE, L., "Engineering Design Approach for Selection and Design of Treatment Technologies", Switzerland



Dr. Linda Strande, Senior Scientist

Sandec: Department of Sanitation, Water and Solid Waste for Development, at Eawag: Swiss Federal Institute of Aquatic Science and Technology. Switzerland

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Dr. Linda Strande is an environmental engineer with over 15 years' experience working internationally in the management of excreta, wastewater and sludge. Her research at Sandec includes optimisation of treatment technologies, innovation in resource recovery, quantification and characterization, and methods for sustainable systems level implementations.

4. DE LOS REYES, F. et al., "Linking Microbial Communities to Degradation Processes Occurring in a VIP and Pour-Flush Latrines", USA



Dr. Francis de los Reyes III, Professor and University Faculty Scholar

North Carolina State University Civil, Construction, and Environmental Engineering Raleigh, NC, USA

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http://www.ted.com/talks/francis_de_los_reyes_sanitation_is_a_basic_human_right

My research includes technologies across the sanitation chain, including the Flexcrevator- an auger-based pit emptying system, microbial analysis of pit contents and pit emptiers' PPE, CFD simulations of low flush toilets, optimization of FS collection and transport, and treatment and reuse of FS.
